



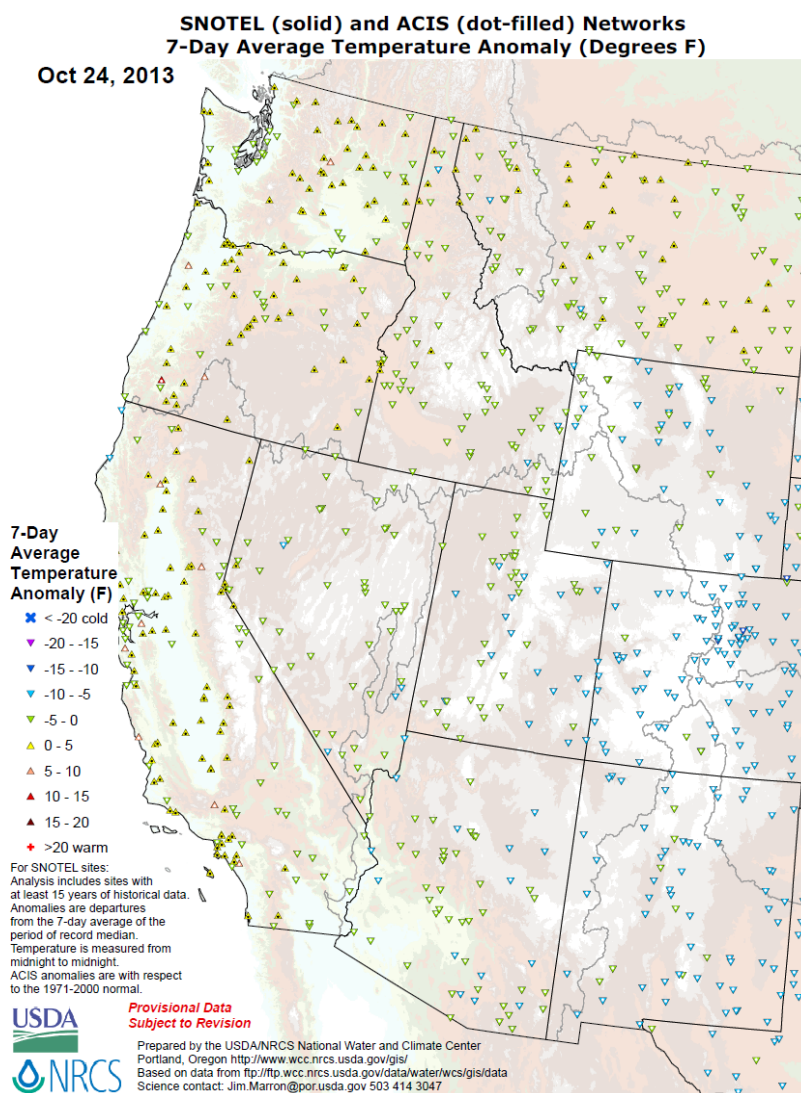
Natural Resources Conservation Service  
P.O. Box 2890  
Washington, D.C. 20013

## Weekly Snowpack / Drought Monitor Update

October 24, 2013

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### Temperature



SNOTEL and ACIS [7-day temperature anomaly](#) map shows the influence of high pressure over the West. Much warmer conditions have occurred on the west side and much cooler conditions on the east side of this ridge.

*Click on map to see latest available update.*

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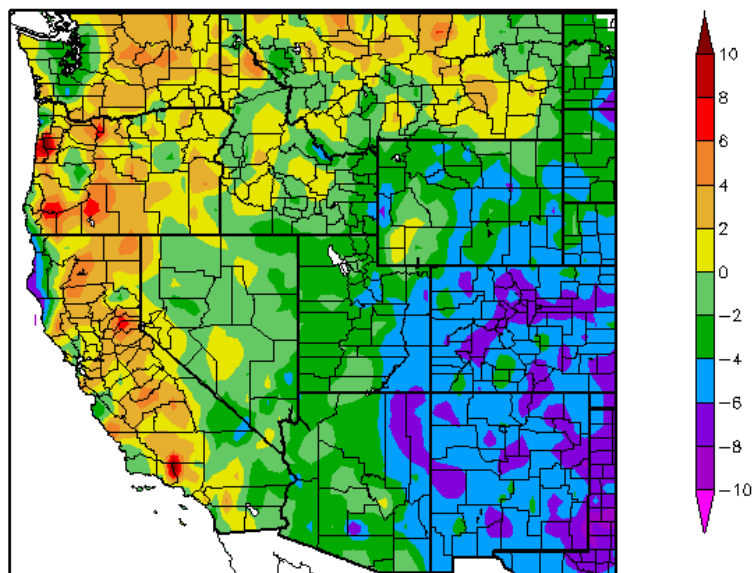
## Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending October 23, show the greatest positive temperature departures confined to parts of the Oregon Coast and Los Angeles Basin ( $>10^{\circ}\text{F}$ ). The greatest negative departures occurred over parts of Colorado, New Mexico, eastern Arizona, and along the cold waters of northern California ( $>-6^{\circ}\text{F}$ ).

*This map currently does not use SNOTEL data, but is expected to later this year.*

For more figures, see the latest Western Water Assessment's Intermountain West Climate [Dashboard](#). See the [Westwide Drought Tracker](#).

Departure from Normal Temperature (F)  
10/17/2013 – 10/23/2013



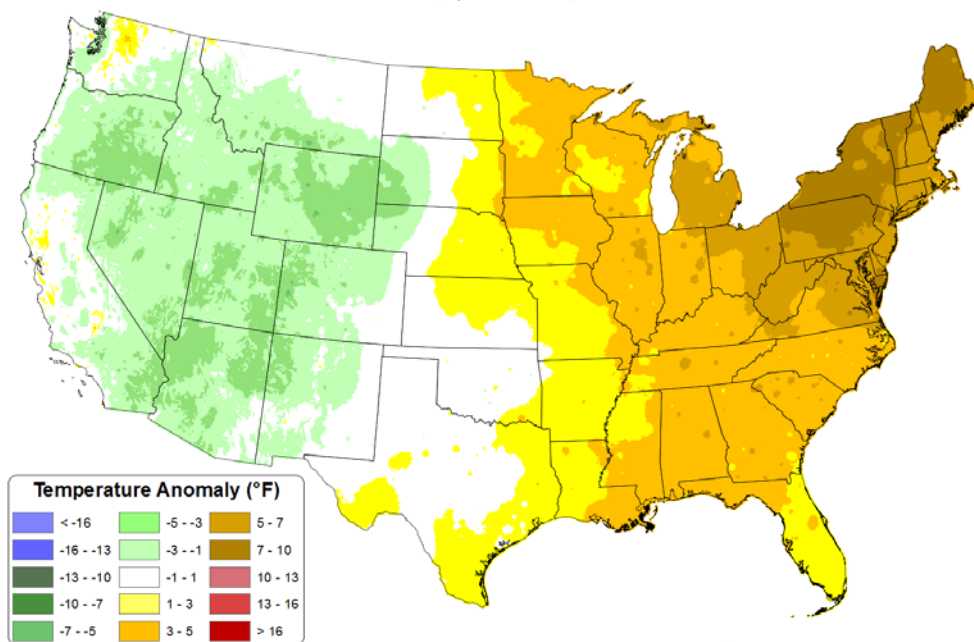
Generated 10/24/2013 at HPRCC using provisional data.

Regional Climate Centers

Daily Mean Temperature Anomaly: 01 October 2013 - 22 October 2013  
Period ending 7 AM EST 22 Oct 2013  
Base period: 1961-2010  
(Map created 23 Oct 2013)

This preliminary PRISM temperature map, updated [daily](#), is now available to the public.

*The map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.*



Copyright © 2013, PRISM Climate Group, Oregon State University

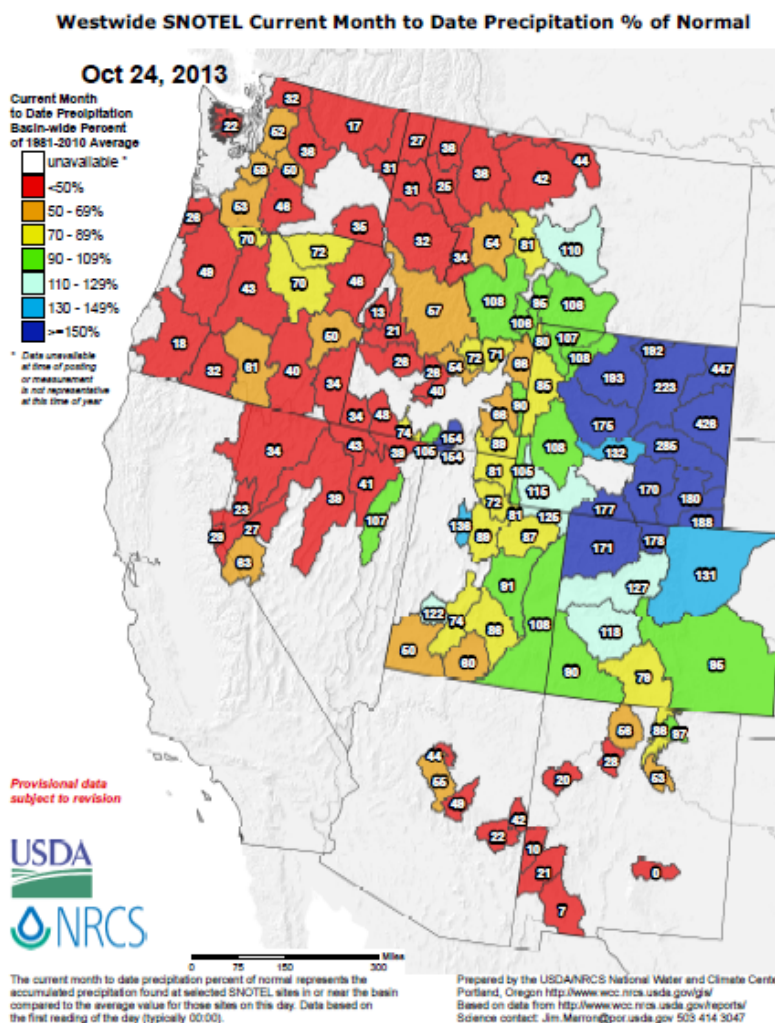
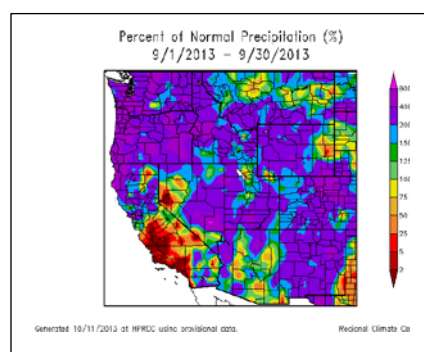
Thus far for October, temperatures have been considerably warmer than normal over the eastern half of the country and colder over the western half.

# Weekly Snowpack and Drought Monitor Update Report

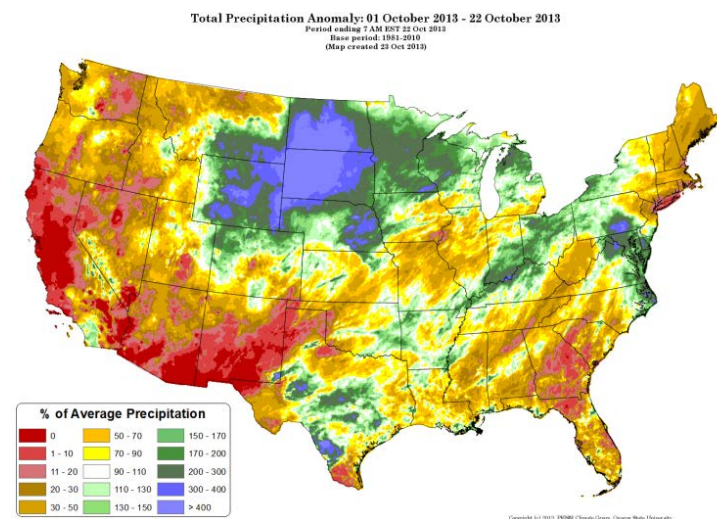
## Precipitation

SNOTEL [month to date](#) precipitation percent of normal map shows a very wet month thus far across most of the eastern slope of the Rockies; especially over Colorado and Wyoming.

In contrast to the precipitation pattern for September, the Pacific Northwest has flipped to extreme dryness (see map below):



*Click images for enlarged latest available update*



October accumulated total precipitation through 7 a.m. on October 22 shows a rainfall pattern that has favored parts of Wyoming and the northern plains. Drier conditions dominate over the remainder of the West and Southeast.

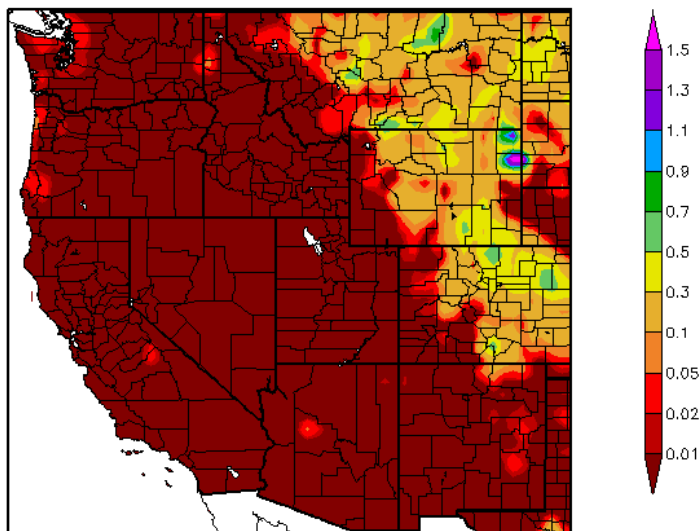
This preliminary daily PRISM precipitation map is [now available](#) to the public. It contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.

## Weekly Snowpack and Drought Monitor Update Report

[ACIS 7-day](#) average precipitation amounts for the period ending October 23 show the influence of high pressure over the Western U.S. Precipitation, which is normally on the light side during this time of year (with the exception of the Pacific Northwest), was only recorded east of the Continental Divide. The typical winter rains and snow common over the Pacific Northwest will start in earnest in a few weeks.

*This map currently does not incorporate SNOTEL data, but is expected to later this year.*

Precipitation (in)  
10/17/2013 – 10/23/2013



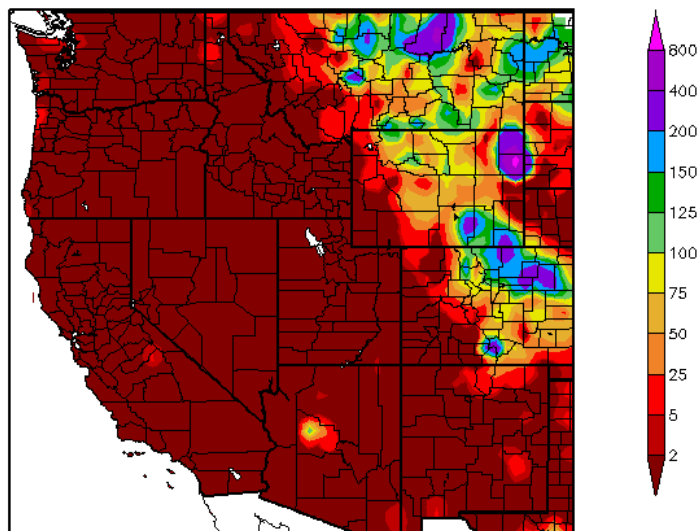
Generated 10/24/2013 at HPRCC using provisional data.

Regional Climate Centers

This [map](#) shows a consistent pattern of precipitation reflected in the top figure. Even total precipitation of greater than 0.5 inch is more than twice the amount that is typical over southeast Wyoming and northeast Colorado.

*This map currently does not use SNOTEL data, but is expected to later this year.*

Percent of Normal Precipitation (%)  
10/17/2013 – 10/23/2013



Generated 10/24/2013 at HPRCC using provisional data.

Regional Climate Centers

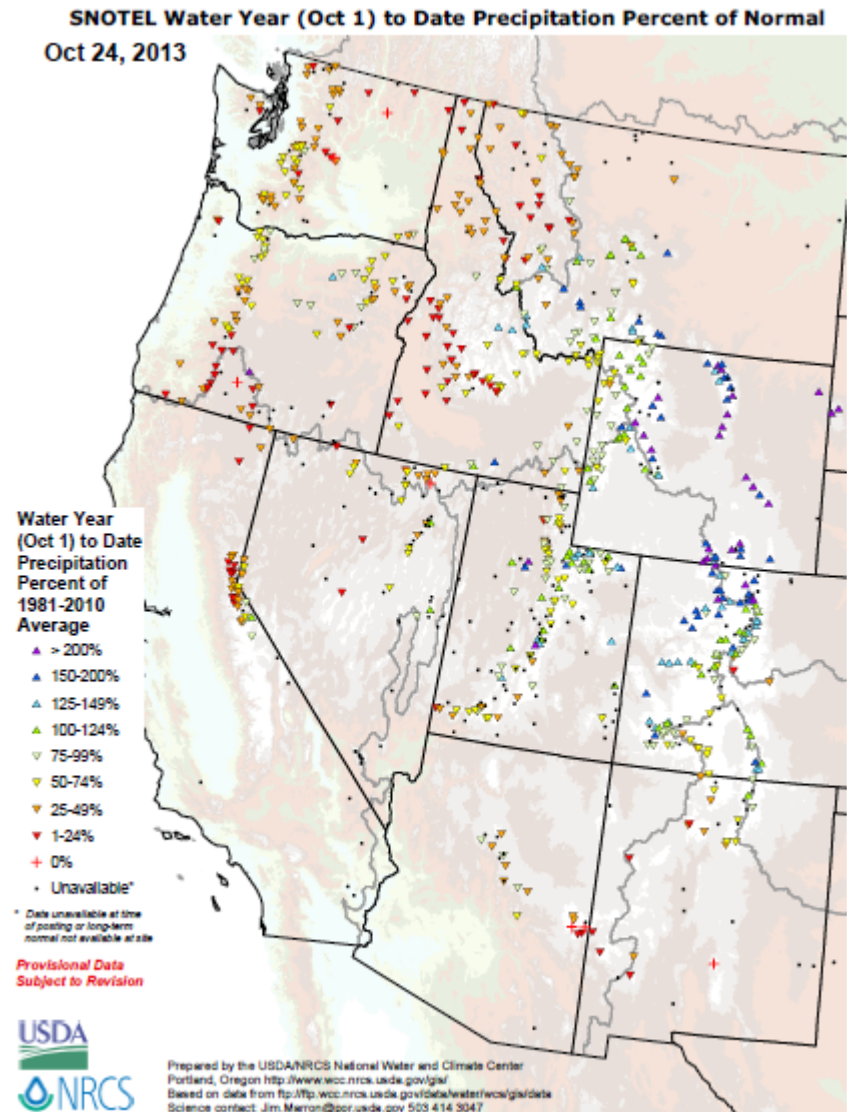


## Weekly Snowpack and Drought Monitor Update Report

For the [2014 Water Year](#) that began on October 1, 2013, the pattern looks like El Nino, but it is still too early to determine if it will remain drier over the Pacific Northwest.

There are indications of a weather pattern change that will increase precipitation over the northern tier states in the coming weeks. Stay tuned.

For additional information, daily reports by SNOTEL site are available [here](#).



[Click image for latest available update](#)

# Weekly Snowpack and Drought Monitor Update Report

## Weather and Drought Summary

### National Drought Summary -- September 10, 2013

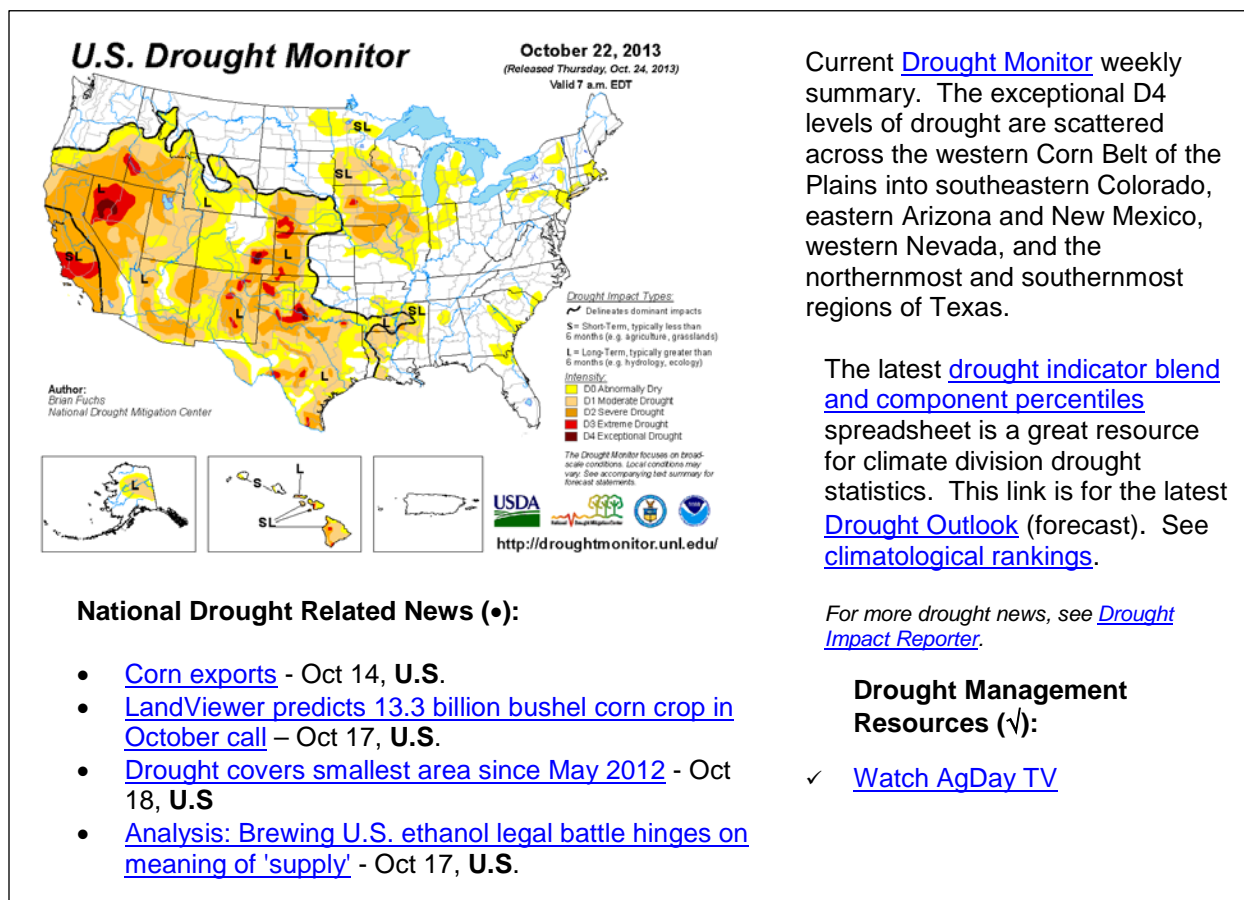
The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Brian Fuchs, from the NDMC).

**The West:** "The wet pattern continued with upper elevation snows and lower elevation rains in both Colorado and Wyoming. In Colorado, D1 was improved in the northwest and southern portions of the state and into northern New Mexico. Wyoming had widespread improvements as a reassessment of the last few months of precipitation prompted improvements to the D1 and D2 in the southwest portion of the state and a full category improvement in the northeast."

**Temperatures:** During the past several weeks, large fluctuations in temperature have occurred as weather systems set up and then remain in place for extended periods. During the past week, high pressure dominated areas west of the Continental Divide. Much warmer than normal conditions have occurred on the west side of this ridge and much cooler condition occurred on the east side.

**Precipitation:** SNOTEL [month to date](#) precipitation percent of normal map shows a very wet month thus far across most of the eastern slope of the Rockies; especially over Colorado and Wyoming. In contrast to the precipitation pattern for September, the Pacific Northwest has flipped to extreme dryness.

A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures below, click [here](#).

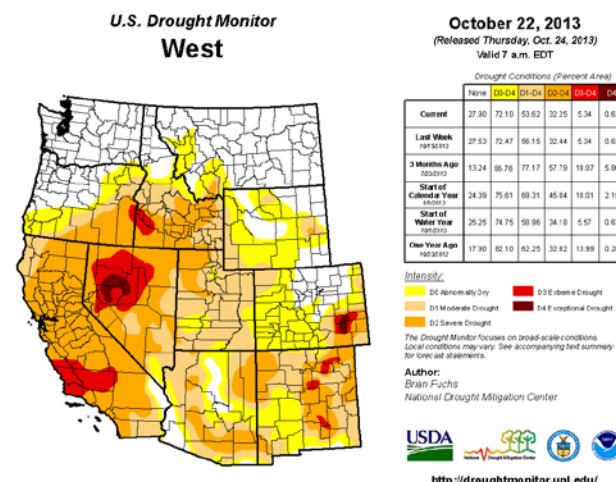


## Weekly Snowpack and Drought Monitor Update Report

- ✓ Drought Monitor for the [Western States](#)
- ✓ Drought Impact Reporter for [New Mexico](#)
- ✓ [California Data Exchange Center](#) & [Flood Management](#)
- ✓ NIDIS [Upper Colorado River Regional Drought Earlier Warning System](#)
- ✓ [Intermountain West Climate Dashboard](#)
- ✓ [Great Basin Dashboard](#)

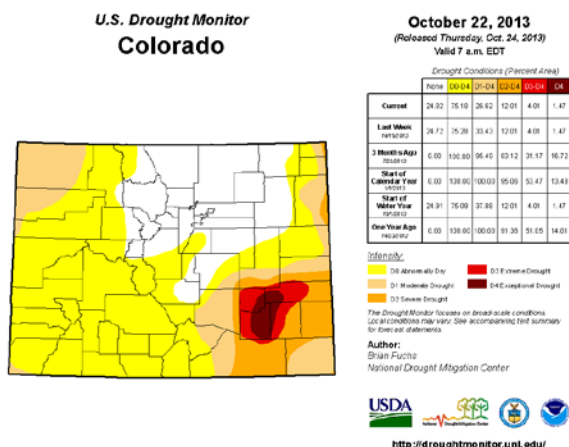
### Western Drought News:

- More corn export news: [Line of ships on Puget Sound hints at rebound](#) - Oct 16, **Washington**.
- [Lightning sparks above-average wildfire season](#) - Oct 16, **Oregon**.
- [Water fight between Mont., Wyo. going to trial](#) - Oct 15, **Montana, Wyoming**.
- [Water Cut-off Hits Early for Farmers](#) - Oct 14, **Southern Idaho**.
- [Blizzard ravages South Dakota's livestock industry](#) - Oct 15, **Western South Dakota**
- [Another dry year could be bad news for California](#) - Oct 14, **California**.
- [Low Reservoirs Worry Next Year's Water Users](#) - Oct 7, **Southern Idaho**.



Note that there was no significant change this week.

- [Metropolitan Prepared to Meet Water Demands in 2014, Despite Questions over Future of Region's Imported Water Sources](#) - Oct 14, **Southern California**.
- [SoCal Water Agency Braces For Reduced Imports Due To Drought](#) - Oct 14, **S CA**

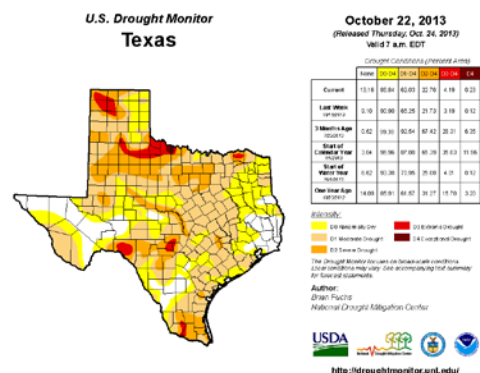


No changes have occurred during the past week.

### State with D-4 Exceptional Drought

### State with D-4 Exceptional Drought

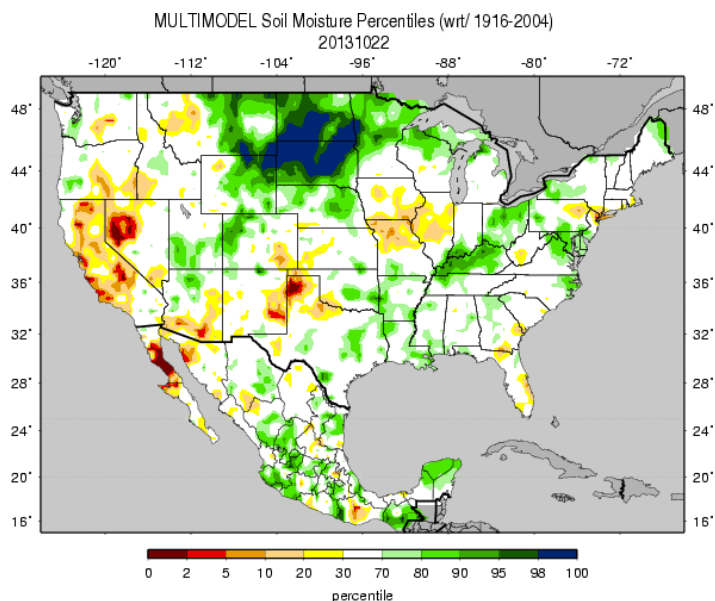
- ✓ Texas Drought [Website](#).
- ✓ [Texas Reservoirs](#).
- [Cargill to close Lockney feedlot due to drought](#) - Oct 15, **Lockney, Texas**.
- [LCRA: drought conditions best since 2010](#) - Oct 14, **Central Texas**.
- [Rains mean Matagorda Bay will get its water](#) - Oct 16, **Lower Colorado River in Central Texas**
- [Cotton Industry Still Recovering](#) - Oct 16, **Texas**.



Note slight deterioration in D-3 and D4 categories during the past week.

## Weekly Snowpack and Drought Monitor Update Report

### Soil Moisture



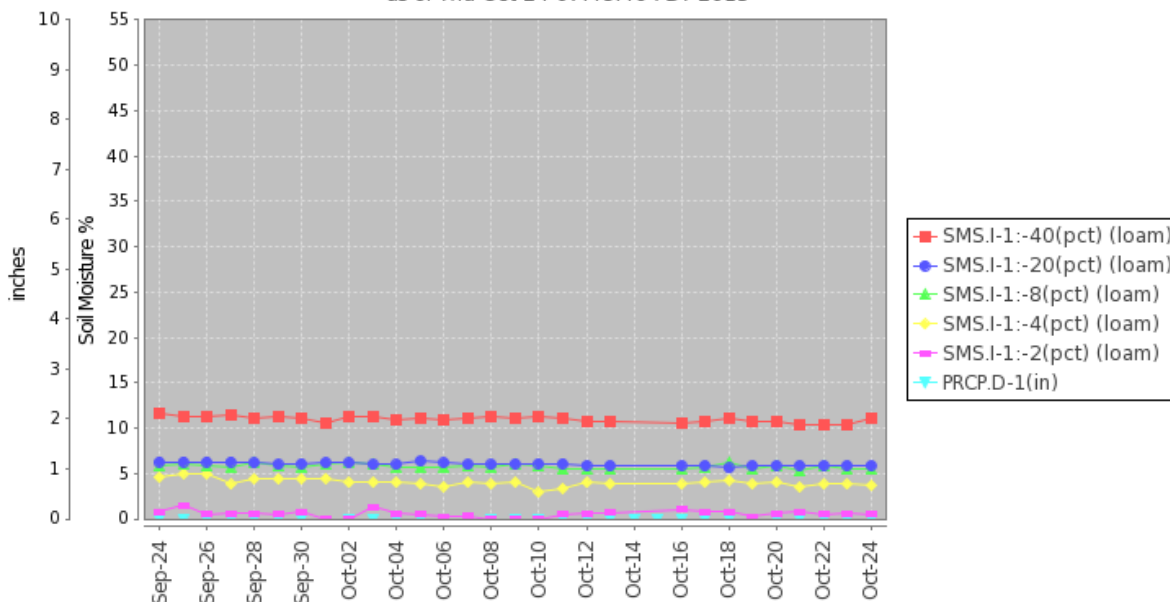
Soil moisture ranking in [percentile](#) as of October 22 shows considerable moisture over the northern plains. Excessive dryness is noted over the Panhandle of Texas, western Great Basin, and much of California.

Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#); [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought Monitor](#); [Soil Moisture](#).

[Soil Health-unlock your farm's potential](#)

### Soil Climate Analysis Network ([SCAN](#))

Station (2189) MONTH=2013-09-24 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision as of Thu Oct 24 07:48:46 PDT 2013

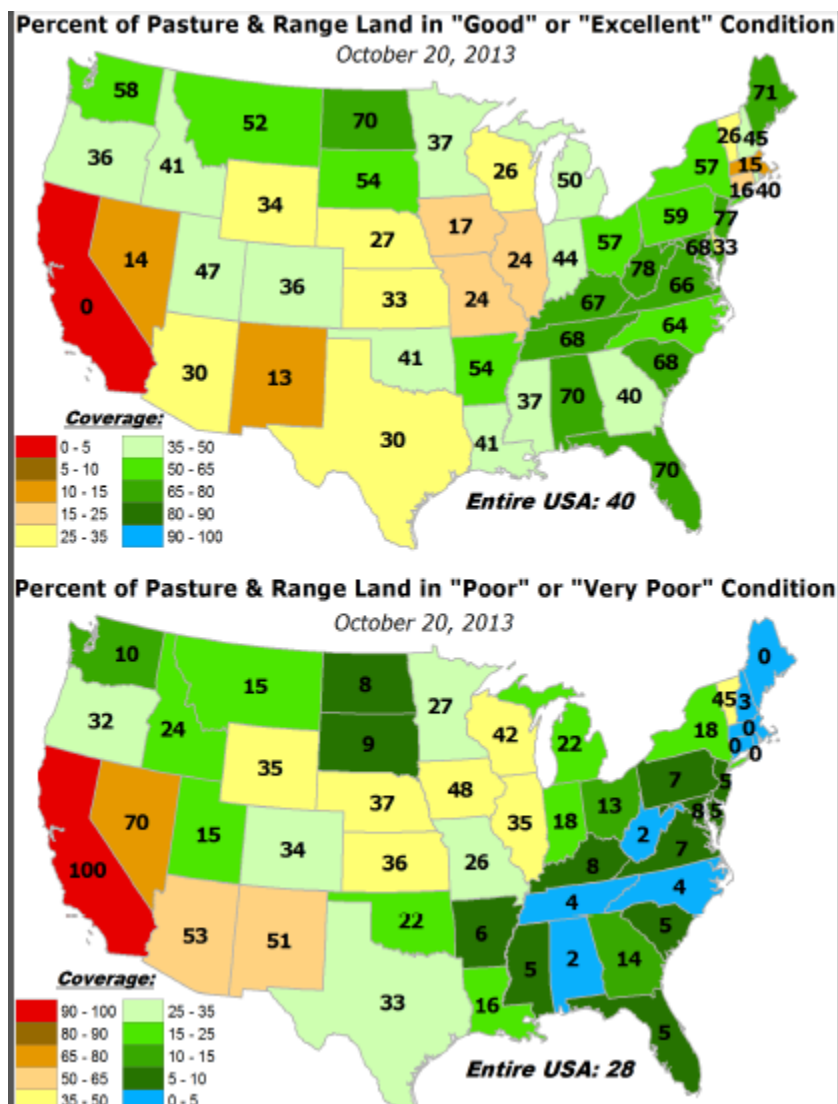


This NRCS resource shows a site over south-central California. Soil conditions are generally drier than the long-term average would suggest.

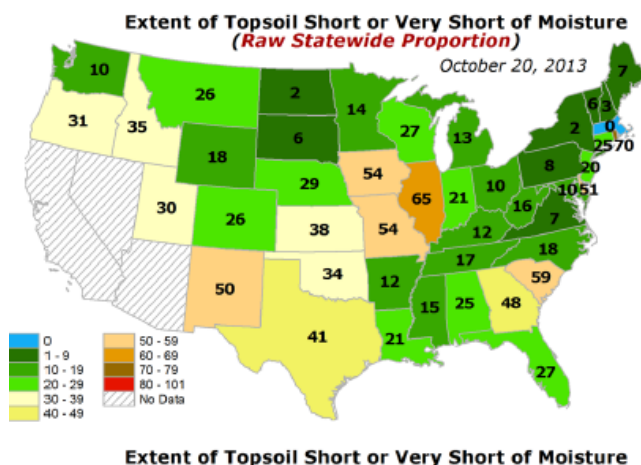
Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#); [North American Soil Moisture Network](#). [Monthly Wild Fire Forecast Report](#).



## Weekly Snowpack and Drought Monitor Update Report



[Pastures](#) continue to be in extremely poor condition over California, Nevada, New Mexico, and Arizona (lower map).



Topsoils reflect the general conditions found with the pastureland conditions noted (top figure).

## Weekly Snowpack and Drought Monitor Update Report

### Complete National Drought Summary

The following complete **Weather and Drought Summary** is provided by this week's NDMC Author:  
**Author:** [Anthony Artusa, NOAA/NWS/NCEP/CPC](#).

#### Midwest

Another week of widespread precipitation in Minnesota and Wisconsin helped to ease concerns over dryness. In Minnesota, improvements were made to the D0 in the northeast portion of the state and to D1 in the central portion of the state. Wisconsin was left unchanged this week as local conditions are improving but not quite to the point of warranting changes to the drought status.

#### South

Short-term dryness over portions of northern Alabama has brought with it the introduction of abnormally dry conditions this week. Deficits are approaching 4-6 inches below normal over the last few months. With some widespread rains throughout central and east Texas, improvements were made in many areas this week. In and along the reservoir system associated with the Colorado River in Texas, an area of D2 was introduced this week in response to the impact of the historically low reservoirs along the system, water restrictions, and even some communities having to ship water in for consumption. There has been very little, if any, improvement from recent rains with regard to runoff into the reservoirs. This can be attributed to the 3+ years of drought in the state. Recent rains allowed for a full category improvement in southeast Oklahoma as well as some improvement to the D0 in Arkansas.

#### Southeast

Dryness over the last 60-90 days has allowed the introduction of some new areas of D0 in North Carolina, South Carolina, Georgia, and Florida. Impacts are minimal at this time, with reports of soils drying out being conveyed.

#### The Northeast

Dryness over the last few months has brought with it more abnormally dry and even moderate drought conditions. In New Jersey, New York, and Connecticut, the abnormally dry conditions were expanded this week. Included with that was an introduction of moderate drought on Long Island and approaching New York City. Central Park in New York City is 7.39 inches below normal since July, Islip Airport is 6.49 inches below normal since July, and Bridgeport, Connecticut, is 6.76 inches below normal.

#### The Plains

Precipitation in northwest Kansas allowed for improvements to the D3 conditions. In South Dakota, D1 was pushed out of eastern portions of the state as well as along the southern border with Nebraska. D0 conditions were also improved along the border with Nebraska. In Nebraska, the D0 and D1 conditions were pushed to the south along the entire northern border. A full category improvement was made in the panhandle of Nebraska as a further of assessment of recent precipitation events has the area recovering on multiple time scales.

#### Hawaii, Alaska and Puerto Rico

There were no changes in Alaska and Puerto Rico this week. In Hawaii, some changes were made on Maui and the Big Island. On Maui, the leeward slopes have been dry and the recommendation was made to push the D3 farther north into the central Valley. On the Big Island, most changes were improvements due to the impact of afternoon showers over the western slopes. The county of Hawaii Department of Water has asked for a voluntary 10% reduction in water use. The lower Kona slopes improved a category while the northeast side of the Big Island saw some D0 go to D1 this week.

### State Activities

[State government drought activities](#) can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate [SSWSF information](#). Additional information describing the [tools](#) available from the Drought Monitor can also be found at the [U.S. Drought Portal](#).

## Weekly Snowpack and Drought Monitor Update Report

### For More Information

The National Water and Climate Center (NWCC) [Homepage](#) provides the latest available snowpack and water supply information. This document is available [weekly](#). CONUS Snowpack and Drought Reports from 2007 are available online. Reports from 2001-2006 are available on request.

This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

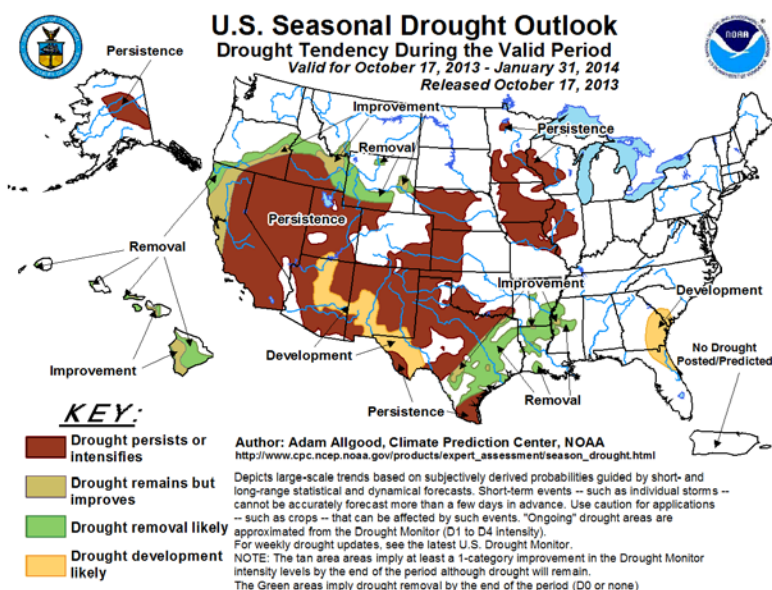
Micheal L. Golden

Deputy Chief, Soil Science and Resource Assessment

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## Weekly Snowpack and Drought Monitor Update Report

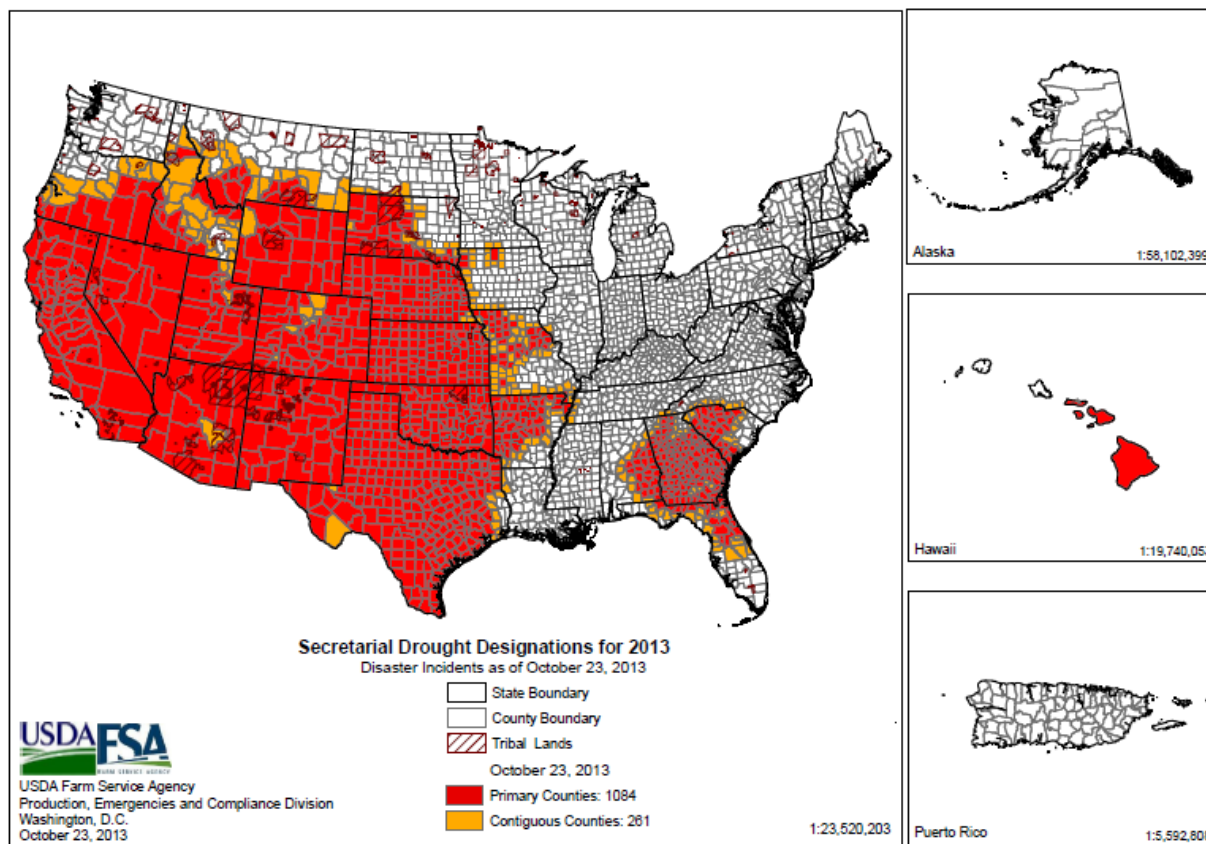
### Drought Outlook (Forecast through November)



U.S. Seasonal Drought Outlook for **November** through **January** shows:

- Expect developing drought over parts of Arizona, New Mexico, southwest Texas, and the Southeast coast.
- Drought is expected to improve over parts of eastern Texas, the Lower-Mississippi River Valley, and southern Wyoming and the Snake River Valley in Idaho.

### 2013 Secretarial Drought Designations - All Drought



Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#). Read about the new [USDA Regional Climate Hubs](#).



## Weekly Snowpack and Drought Monitor Update Report

### Supplemental Drought Information

The “Ag in Drought” file that had been previously posted each week by NDMC’s Brian Fuchs is now available at: <http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf>

Archived files are available at: <http://drought.unl.edu/Planning/Impacts/USAgInDroughtArchive.aspx>

Highlights for the 7-day drought-monitoring period ending 7 am EDT on October 22 include:

- In recent weeks, abundant precipitation has fallen in nearly all of the nation’s drought-affected areas. As a result, only 35.00% of the contiguous U.S. remained in drought on October 22, down from 45.46% just three weeks ago and a late-summer (September 10) peak of 50.69%. Thirty-five percent represents the smallest U.S. drought area since May 15, 2012.

- For the three-week period ending October 22, all crops and commodities in drought were down sharply. Only 38% of the U.S. corn production area was in drought on the 22<sup>nd</sup>, down from 54% on October 1 and a late-summer peak of 55%. Similarly, 29% of the soybean production area was in drought, down from 43% three weeks ago and a late-summer high of 45%. On October 22, only 26% of the hay, 34% of the winter wheat, and 40% of the cattle were in drought. Those numbers were down from late-summer peaks of 41, 45, and 55%, respectively.

- With the return of dry weather in recent days, harvest of U.S. summer crops has accelerated. The corn harvest was 39% complete by October 20, while the soybean harvest was 63% complete. Due to the fact that much of the lingering drought across the nation’s winter wheat production areas is a long-term feature with only subsoil moisture deficits, the newly planted crop is performing well. As a result, USDA rated nearly two-thirds (65%) of the U.S. winter wheat in good to excellent condition on October 20. Since 1995, only four years—1996, 1997, 2004, and 2008—started off the winter wheat growing season with higher condition ratings.

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### Cattle feed yard closing in Lockney, Texas in summer of 2014

Cargill officials announced the closing of the cattle feed yard in Lockney, Texas during the summer of 2014, due to the small cattle population in the region, years of drought and less harvested grain in the area for cattle feed.

In January, Cargill idled its meat processing plant in Plainview, not even 20 miles to the west of Lockney.

### Corn exports

U.S. corn exports in 2012 were projected to be only 715 million bushels, the least amount since 1970, as drought curbed corn production in the U.S. and corn production outside the U.S. increased. Wheat exports exceeded corn exports in 2012 for the first time since 1970.

Grain exports through Seattle amounted to just 3.1 million tons in 2012, down from 5 million tons in 2011. The trend was similar in Tacoma where exports in 2012 were 4.8 million tons, compared to nearly 6 million tons in 2011.

On the bright side, cargo ships are lining up at Seattle and Tacoma, Washington to load up on grain to take back to Japan and China. These ports have not seen cargo ships approach to load up with Midwestern grain since drought started in 2012.

### Cotton

Cotton production in West Texas has not rebounded to levels of production seen before the 2011 drought.

## Weekly Snowpack and Drought Monitor Update Report

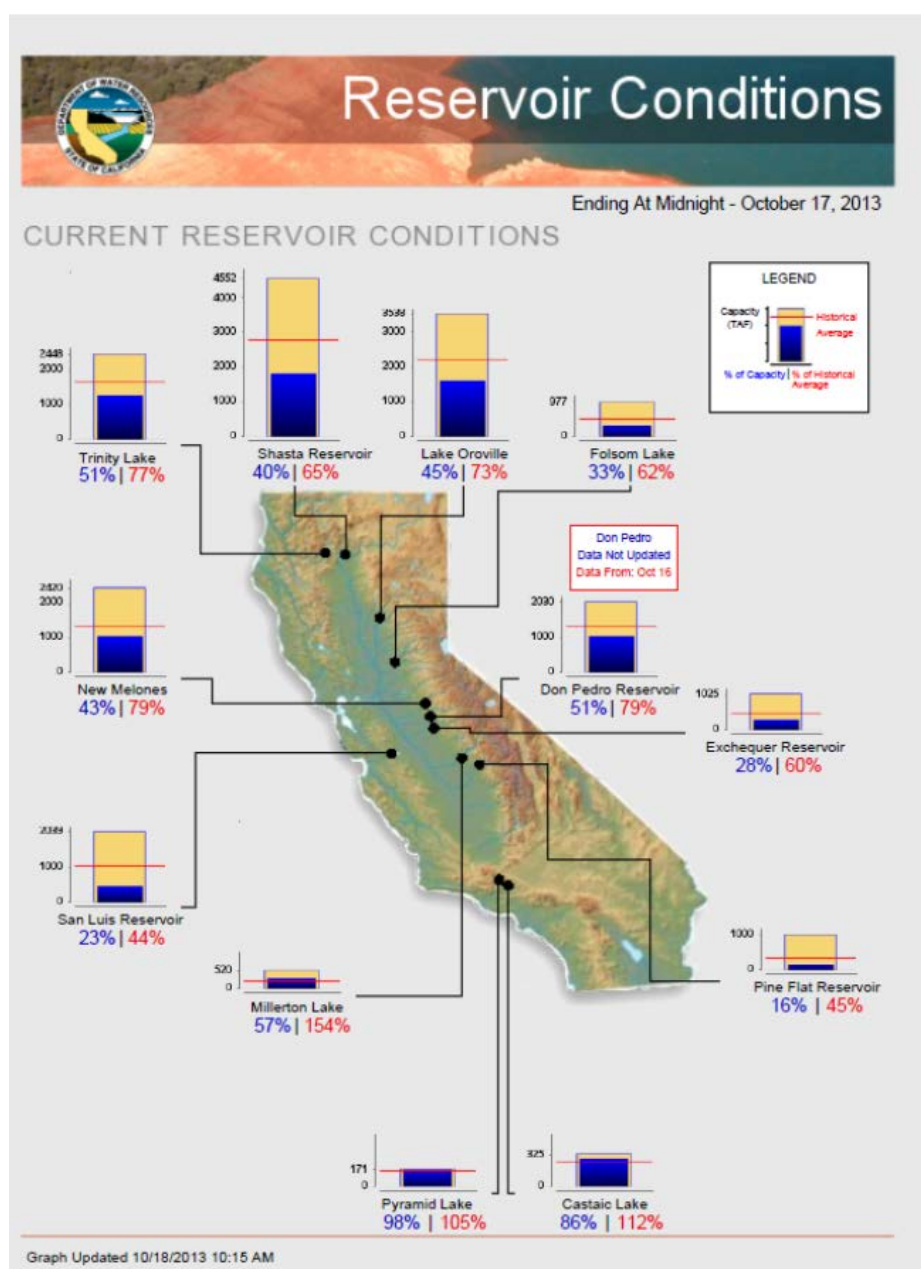
### California drought

While California officials are not prepared to declare a statewide drought, residents were warned to conserve water because parts of the state could be short of water in 2014 if the upcoming winter does not bring plenty of snow.

Officials with the Metropolitan Water District in southern California announced plans to draw water from stored reserves in an effort to dodge mandatory cutbacks in 2014 as drought reduces the flow of the Colorado River and two dry winters in Sierra Nevada left water supplies low.

"After two consecutive dry years, the state project reservoirs that buffer California's water supplies are getting low, leaving us no choice but to forecast reduced state supply allocations," said the director of California's Department of Water Resources. "A wet winter could increase those projections, but we need to be cautious, given last year's early rains gave way to record-dry conditions."

Many of California's reservoirs are below historical averages as seen in the graphic below from the Department of Water Resource's California Data Exchange Center. <http://cdec.water.ca.gov/cdecapp/resapp/getResGraphsMain.action>



## **Weekly Snowpack and Drought Monitor Update Report**

### **Litigation**

Montana sued Wyoming in 2007 for allowing farmers and the oil and gas industry to use an estimated 10,160 acre-feet or more than 3.3 billion gallons of water from the Tongue and Powder rivers before they enter Montana during recent years of drought. The trial finally began in a federal courtroom in Billings, Montana on Oct. 16.

### **Oregon Wildfires**

- Wildfires consumed more land in Oregon in 2013 than in any year since 1951 after lightning and drought contributed to blazes affecting 325 square miles.
- Oregon spent \$122 million to fight the fires and expects to be reimbursed \$47 million from federal agencies, leaving the state responsible for the remaining \$75 million.
- The Oregon fires charred an estimated \$370 million worth of timber on state, private and U.S. Bureau of Land Management lands.